## Final Report of Project

## "Optimal Design and Regulations in Healthcare"

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The research grant I received from Konkurrensverket allowed me to study a topic relevant to how healthcare policies are designed. I believe I achieved all analysis goals that will allow me to publish my findings in an academic journal. I have used the funding provided by Konkurrensverket to collect unique administrative data on Swedish dental market from the variety of sources—i.e., SCB, Försäkringskassan, Socialstyrelsent, and TLV. I also used the grant resources for research assistance to help process the data and perform necessary analysis to achieve the goals of the study.

After exploring the data and institutional details, I focused on two main aspects that I determined—based on the empirical evidence—to be most convincing and promising: (1) the effect of competition of private and public healthcare providers on quality and accessibility of care and (2) the role of imperfectly competitive markets on competition in healthcare markets. I briefly describe my analysis and preliminary findings below as well as outline the remaining steps I will take to start a publishing process.

In my first paper, I find considerable differences in the amount of care individuals use across several important margins, potentially related to the differences in the access to care and its affordability—e.g., where they reside and income. This analysis relies on detailed data on dental providers, patients' and details of their dental care utilization. To ensure the differences in care are not related to inherent individual characteristics—e.g., heath that may also be correlated with such factors as income—I conduct a causal analysis to eliminate differences not related to access and affordability. For example, in line with a prior literature, I rely on the variation in individual behavior caused by the individuals moving to different markets.

As a next step, I explore what market factors may be driving such differences. First, I document and provide arguably causal evidence of the fact that private clinics provide more care. In other words, if a given individual happens to be randomly assigned to clinics, they would receive more care if they were to visit a private dentist. I also provide convincing evidence that these differences are closely related to profit-driven incentives of private clinics.

At the same time, I also find that private clinics provide better and more accessible care. While it is impossible to assess "actual" care quality, I focus on perceived quality of care measured by individual choices of clinics and probabilities to stay with a clinic after receiving treatment.

Overall, in this paper, I find a mixed effect of competition of public and private clinics. On the one hand, private clinics may provide more care than may be necessary, which given government insurance, may result in additional tax burden. On the other hand, private clinics correct public clinics' failure to provide a sufficient level of care. To quantitatively assess the importance of these channels, I also estimate a simple structure model and simulate alternative outcomes with and without provision of public care and insurance programs.

In another paper, I focus on how imperfectly competitive labor markets affect competition in healthcare markets. I rely on a unique dataset of doctors, matched to the rest of the data as I describe above. It allows me to utilize employer-employee panel structure of the data—e.g., as in

Abowd, Kramarz & Margolis (1999)<sup>1</sup> to estimate what portion of the variation in quality and pay differences across doctors and differences across clinics account for. I find that both doctors and clinics are important to explain observed differences. As such, I also find that competition in labor market has a profound effect on how firms compete.

I estimate a model to quantify channels and determinants of how wages are set and how workers sort themselves to employers. I find that the importance of competition in labor market rises with more variation in workers qualities and the importance of workers' quality in the overall patient experience. As such, given the importance of workers' differences I document, the role of labor market in shaping policies relating to healthcare is not negligible.

Even though I have completed the vast majority of analyses needed to document and demonstrate findings I discuss above, I need to do more robustness tests and finalize drafting to publish working papers, present the papers on several conferences to collect feedback, and then submit for publication upon addressing the comments from the conferences. Thanks to the grant I was privileged to receive from the Konkurrensverket, I have all necessary data to perform the final stages without a need to prolong the funding and use remaining resources, which will be paid back by the department to the Konkurrensverket. I aim to send a paper to publication by the end of 2024. I will keep the Konkurrensverket informed about any of my work related to my research funded by the Konkurrensverket being published.

I sincerely appreciate your support of my research.

Kind regards, Maksym Khomenko

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<sup>&</sup>lt;sup>1</sup> Abowd, John M., Francis Kramarz, and David N. Margolis. "High wage workers and high wage firms." *Econometrica* 67, no. 2 (1999): 251-333.